

Agenda

- Production and Industry Test Release Updates
- Test and Production Statistics
- Interfirm Linkage Updates
- Exchange Linkage Updates
- TRF Linkage Updates
- General Announcements & Reminders
- Upcoming Key Dates
- Q&A

Production and Industry Test Release Updates

Industry Member 2a/2b – Release 3 & 4 (Interfirm, Exchange & TRF) Release Rollout

Interfirm Release 3.1 Industry Test – 7/27/2020 Production – 8/10/2020	Interfirm Release 3.2 Industry Test – 8/10/2020 Production – 8/10/2020	Exchange/TRF Release 4.1 Industry Test – 9/9/2020 Production – 9/28/2020	Interfirm Release 3.3 Exchange/TRF Release 4.2 Industry Test – 9/21/2020 Production – 9/28/2020
<ul style="list-style-type: none"> Machine-to-Machine Interfirm Validations & Feedback including Named Errors <p>CAT Reporter Portal</p> <ul style="list-style-type: none"> Download Interfirm Feedback including Named Errors Set preference for Named Feedback (JSON vs CSV) 	<p>CAT Reporter Portal</p> <ul style="list-style-type: none"> Reporting Summary (Interfirm Link Eligible, Errors, Warnings and Adjusted Error Rate) Counterparty statistics downloadable for Interfirm Unlinked and Unlinked Named Errors Error Code Count screen to include Interfirm Errors and Warning including Named Errors Error Search screen ability to view and correct Interfirm Linkage Errors (No Named Errors) 	<ul style="list-style-type: none"> Machine-to-Machine Exchange/TRF Validations & Feedback including Named Errors. <p>CAT Reporter Portal</p> <ul style="list-style-type: none"> Download Exchange/TRF Feedback including Named Errors. 	<p>CAT Reporter Portal</p> <ul style="list-style-type: none"> Reporting Summary (Exchange/TRF Link Eligible, Errors and Adjusted Error Rate). Error Code Count screen to include Exchange/TRF Errors including Named Errors. New Screen including Export for Interfirm, Exchange & TRF statistics by counterparty. Error Search screen <ul style="list-style-type: none"> View and correct Exchange & TRF Linkage Errors. View Interfirm Named Errors (not repairable via the Portal).

Phase 2a Interfirm/Exchange/TRF Compliance Date – 10/26/2020
 Phase 2b Interfirm/Exchange Compliance Date – 1/4/2021

Production Statistics

Production Statistics

September 21 – September 25, 2020

Product Type	Firm Count	Total Weekly Aggregate Accepted Count	Late %	Initial Rejection %	Initial Intrafirm Unlinked %	Initial Error %	Adjusted Error %	Interfirm Sent Unlink %	Interfirm Received Unlink%
Equities	1,178	85,200,761,823	.8154%	.1584%	.3505%	1.1969%	1.0347%	16.2830%	14.3824%
Options	677	7,986,887,974	.2395%	.2641%	.0608%	.5392%	.5273%	20.0725%	3.9635%
Unknown	103	157,585	.0000%	.9217%	NA	.9217%	.0296%	NA	NA

Notes:

1. File Rejection Rate is 1.05%.
2. Average daily Accepted volume is about 17 B for Equities and 1.5B for Options.
3. Initial & Adjusted Error Rates include Late + Rejections + Intrafirm Errors.

Interfirm Linkage Updates

Interfirm Results

September 21 – September 25, 2020

Process Date	EQUITIES		OPTIONS	
	Interfirm Sent Unlinked %	Interfirm Received Unlinked %	Interfirm Sent Unlinked %	Interfirm Received Unlinked %
9/21/2020	13.9958%	14.3020%	26.3544%	5.3527%
9/22/2020	19.2140%	15.1624%	20.4491%	4.4943%
9/23/2020	17.4092%	13.4475%	4.4235%	4.2550%
9/24/2020	17.1544%	14.1349%	23.2090%	2.8620%
9/25/2020	13.6231%	15.2369%	23.4815%	2.7817%

Interfirm Results

September 21 – September 25, 2020

➤ Breakdown of Overall Error Rate

REASONS:	Percentage of Overall Error Rate	
	Sender (Routes)	Receiver (Accept/Modify)
Routed Order ID mismatch (8003/9003)	60.02%	53.58%
SenderIMID mismatch (8005/9005)	7.76%	9.10%
ReceiverIMID mismatch (8007/9007)	27.24%	31.91%
Symbol mismatch (8009/9009)	0.01%	0.00%
Multiple mismatches (8011/9011)	2.20%	2.22%
Route key duplicate (8013/9013)	2.76%	3.19%

Interfirm Linkage Updates

- Effective yesterday, September 28, 2020, FINRA CAT will be removing leading zeros from the *routedOrderID* field for linkage purposes only in both CSV and JSON format.
 - Unlike OATS, leading zeros in the *routedOrderID* field are not rejected in CAT.

Exchange Linkage Updates

Early Observations with Differences in Exchange Linkages Key

The following scenarios are generating unlinked events and have been observed across many firms:

1. Firm populating incorrect Exchange ID in destination field
2. Industry Member and Exchange populating different IMIDs
3. Session IDs incorrectly populated
4. Firms improperly marking an Exchange Route as an Interfirm Route

Session Differences:

1. Update: NYSE Options exchange prefix session issue has been resolved

Exchange Linkage Feedback

In the event that the Plan Processor does not receive any specific exchange's data by 8 am ET and there are impacts to exchange linkage results:

- An announcement will be posted to the CAT Reporter Portal
- FINRA CAT will send an email to those subscribed to the CAT System Status Notifications Email Subscription Service
- Any resulting unlinked errors will be automatically resolved the following day

TRF Linkage Updates

Early Observations with Differences in TRF Linkage Key

The following scenarios are generating unlinked events and have been observed across firms. The Industry Member is:

1. Populating a different CATReporterIMID on the MEOT than in the TRF/ADF/ORF report.
2. Populating an incorrect Reporting or Contra Branch Sequence Number or Compliance ID.
 - Have seen instances where in cross scenarios, firms are putting a “B” or “S” in front of the Branch/Seq, etc. in the TRF report (to facilitate OATS) but are reporting the Tape Trade ID on the MEOT without the “B” or “S” prefix.
3. Populating an incorrect Market Center ID.
 - Have seen instances where firms populate the exchange code instead of the TRF code.
4. Reporting a duplicated TRF Linkage Key.

FINRA CAT File Submission and Data Integrity

Open Issues List – As of 9/29/2020

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date/Workaround	Production Environment Targeted Release Date/Workaround	Area
1	Open	N/A	FINRA CAT is incorrectly marking New Order Supplements as late that were submitted on a subsequent date to update an FDID of 'PENDING'. DeMinimis impact to Daily Compliance Rate and Report Cards.	Code Release	Medium	4Q 2020	4Q 2020	Statistics
2	Open	N/A	Successful file delete submissions are incorrectly getting counted in the rejected files count in the statistics. Does not impact Compliance Error Rate.	Code Release	Low	To be scheduled	To be scheduled	Statistics
3	Open	N/A	FINRA CAT is incorrectly accepting timeInForce of GTD without a valid date.	Code Release	Medium	4Q 2020	4Q 2020	Ingestion Feedback & Statistics
4	Open	2060	Intraday additions of FLEX options received by FINRA CAT after 6 pm are added to the FINRA CAT Options list effective the next day resulting in rejections for events reported for the prior day.	Code Release	Low	10/31/2020	10/31/2020	Reference Data Issue

FINRA CAT Intrafirm

Open Issues List – As of 9/29/2020

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date/Workaround	Production Environment Targeted Release Date/Workaround	Area
1	Open	N/A	Parent not found errors that are reconciled continue to be displayed as 'U' (Unrepaired) in Error Summary & Error Search screens. Feedback & Reporting Summary statistics are not impacted by this issue.	Code Release	High	Solution and/or Workaround to be provided no later than October 26, 2020	Solution and/or Workaround to be provided no later than October 26, 2020	Reporter Portal
2	Open	3601	Out of Sequence Errors that are caused by an incorrect Time Stamp on the parent event are not being properly reconciled when the parent Time Stamp is corrected. Repaired counts and Adjusted Unlinked Rate are impacted by this issue.	Code Release	High	4Q 2020	4Q 2020	Statistics
3	Open	Multiple	Parent not found errors are being generated for open option orders when the option symbol changes due to corporate action.	Code Release	Medium	4Q 2020	4Q 2020	Linker Feedback & Statistics

FINRA CAT Interfirm Open Issues List – As of 9/29/2020

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date/Workaround	Production Environment Targeted Release Date/Workaround	Area
1	Open	N/A	FINRA CAT is incorrectly providing Route/Accept unlinked feedback to small firms not required to report until 2d.	Code Release	Medium	10/26/2020	10/26/2020	Linker Feedback
2	NEW-Open	9003 9004	FINRA CAT is generating Unlinked Error Codes for unlinked order modification events. These will be excluded from linkage feedback when a matching routed order ID is not found.	Code Release	Medium	10/26/2020	10/26/2020	Linker Feedback Reporter Portal

FINRA CAT Exchange/TRF

Open Issues List – As of 9/29/2020

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date/Workaround	Production Environment Targeted Release Date/Workaround	Area
1	NEW-Open	6003 7004	FINRA CAT is generating unlinked errors for equity routes to options exchanges related to the equity leg of complex orders. These routes will be excluded from unlinked feedback.	Code Release	Medium	10/26/2020	10/26/2020	Linker Feedback
2	NEW-Open	7004	FINRA CAT is generating unlinked named errors for routes to exchanges in cases when the event occurred between 4:15pm and midnight and is not reported to CAT by 8am on the following business day.	Code Release	Medium	To be scheduled	To be scheduled	Linker Feedback
3	NEW-Open	6017 7018	FINRA CAT is adding additional error codes to support Exchange Linkage: <ul style="list-style-type: none"> • 6017 destination did not match • 7018 Named - destination did not match 	Code Release	Medium	To be scheduled	To be scheduled	Linker Feedback
4	NEW-Open	4013 5014	FINRA CAT is adding additional error codes to support TRF Linkage: <ul style="list-style-type: none"> • 4013 CATReporterIMID did not match • 5014 Named - CATReporterIMID did not match 	Code Release	Medium	To be scheduled	To be scheduled	Linker Feedback

FINRA CAT Open Issues List – Planned Enhancements

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date	Production Environment Targeted Release Date	Area
1	Open	2133	For Name/Value Pair Data type fields, providing a value that is not in allowable values list returns error code 2133 (Additional Field) instead of error code 2101 (Missing or Invalid timeInForce).	Code Release	Low	To be scheduled	To be scheduled	Ingestion Validations
2	Open	2122	Incorrect error code is generated when an array field (e.g., clientDetails) is provided as a Name/Value pair.	Code Release	Low	To be scheduled	To be scheduled	Ingestion Validations
3	Open	2027	Incorrect error code is being generated when eventTimestamp is a future date (2027 – eventTimestamp must be in the correct format instead of 2139 – eventTimestamp is greater than the current date and time).	Code Release	Low	To be scheduled	To be scheduled	Ingestion Validations

Recently Closed Issues – As of 9/29/2020

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date/Workaround	Production Environment Targeted Release Date/Workaround	Area
1	Closed	N/A	Named Exchange Errors (CBOE Exchange) to include firmID concatenated with firmSubId (8 character value) in sessionID in error feedback file.	Code Release	High	9/28/2020	N/A	Linker Feedback
2	Closed	Multiple	Named TRF Errors includes blank value for issue symbol and an incorrect eventTimestamp format in error feedback file.	Code Release	High	9/21/2020	N/A	Linker Feedback
3	Closed	2007	Unable to group repair Error Code 2007 (Missing or Invalid atsDisplayInd) when the CAT Reporter IMID is a non ATS firm.	Code Release	High	9/21/2020	9/28/2020	Reporter Portal

Reporter Portal Updates

- FINRA CAT will be unable to support displaying 20,000 errors on the Reporter Portal at this time. The Reporter Portal will continue to display as follows:
 - For IMs with 10,000 errors or less per IMID per processing date across all linkage types, all errors will be displayed.
 - For IMs with more than 10,000 errors per IMID per processing date across all linkage types, zero errors will be displayed.

Reporter Portal – Download Feedback Screen

- Effective yesterday, September 28, 2020, all linkage errors available in machine formatted files via Portal Download
 - Record limits no longer imposed at the firm level
 - Approximately 400,000 records per file

CAT Reporter Portal | 3:34 PM EST 09/22/2020 | THIS IS A QAINT ENVIRONMENT (not intended for production use) | Perspective Reporter | Namrata Sharma (portaltest99999999) (99999999)

Report to CAT

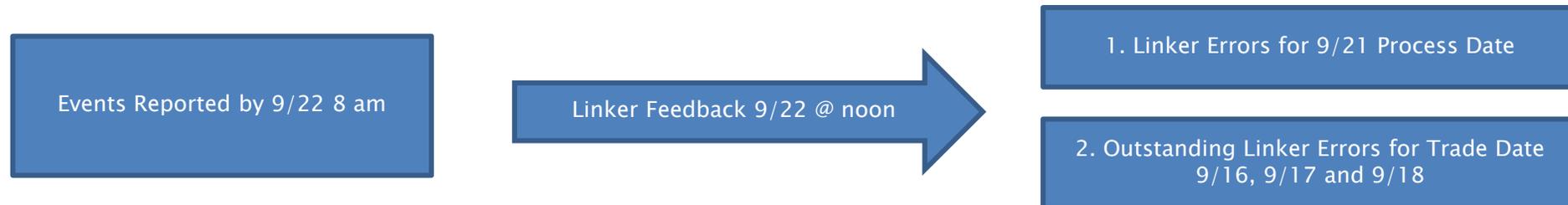
File Upload | **Download Feedback** | Create CAT Events | Pending Submissions

Linkage feedback files are for both Portal and SFTP submissions. File Ingestion and Data Integrity feedback files are for Portal submissions via direct entry/repair and "File Upload" functionality only.

Feedback Time	File Name	Download
Sep 20, 2020 22:54:37	99999999_ZZZT1_20200918_OrderEvents.linkage.error_000001.csv.bz2	
Sep 20, 2020 20:23:54	99999999_ZZZT1_20200917_OrderEvents.linkage.error_000001.csv.bz2	
Sep 20, 2020 20:20:07	99999999_ZZZT1_20200917_OrderEvents.linkage.error_000001.csv.bz2	
Sep 20, 2020 07:17:38	99999999_ZZZT1_20200914_OrderEvents.linkage.error_000001.csv.bz2	
Sep 17, 2020 23:13:42	99999999_ZZZY1_20200914_OrderEvents.linkage.error_000001.csv.bz2	
Sep 17, 2020 23:13:36	99999999_ZZZT1_20200914_OrderEvents.linkage.error_000001.csv.bz2	
Sep 15, 2020 17:57:06	99999999_ZZZY1_20200914_OrderEvents.linkage.error_000001.csv.bz2	
Sep 15, 2020 17:57:05	99999999_ZZZT1_20200914_OrderEvents.linkage.error_000001.csv.bz2	

Outstanding Linker Errors Update

- Beginning October 26, 2020 a daily outstanding errors file will be delivered in machine readable format available via SFTP and Reporter Portal Download
- The feedback file(s) will follow the current construct of the linkage feedback files (Meta & Data Pair)
 - Metafile feedback will include the file extension .linkage_outstanding
 - Datafile will include linkage_outstanding.error
 - A firm whose linkage errors have all been repaired will get an empty file with a .linkage_outstanding[_<Feedback File Number>].success extension
- The outstanding errors feedback will include all repairable linker errors (NOT WARNINGS) including named errors that are unrepaired as of a processing date for three prior trade dates. For example:



Planned Industry Member Technical Specification Updates– Last Updated 9/29/2020 – 2a/2b

#	Status	Summary	Publish Date	Spec Version
1	Open	Clarify that leading zeros will also be removed for Interfirm Linkage in addition to Exchange Linkage	11/6/20	2.2.1 r8
2	Open	Clarify that 6000 and 7000 series error codes apply to both sending IMs (MEORs) and receiving outbound routers (MEOAs)	11/6/20	2.2.1 r8
3	Open	Clarify the definition of <i>handlingInstructions</i> value 'BIN' (Buy-In) – “An order placed to comply with the close out requirements of Regulation SHO Rules 203(b)(3) or 204, or FINRA Rule 4320.”	11/6/20	2.2.1 r8
4	Open	Add Error Codes to support Exchange Linkage: <ul style="list-style-type: none"> 6017 destination did not match: A matching routedOrderID was identified in an exchange order; however, the destination on the Order Route event did not match the exchange ID on the exchange order. 7018 Named – destination did not match: Named on an exchange order, but the exchange ID on the exchange order does not match the destination reported on the corresponding Order Route event. 	11/6/20	2.2.1 r8
5	NEW-Open	Add Linker Outstanding Errors Feedback format <ul style="list-style-type: none"> Spec update as addendum to be provided sooner (Date – TBD) 	11/6/20	2.2.1 r8

General Announcements & Reminders

Reminder

- Effective at the end-of-day September 25, 2020, approximately 480 new test symbols were added to the SOD/EOD lists.
 - These are identified with the Test Flag.

Upcoming Key Dates

Upcoming Key Dates for Release 2a/2b

Topic	Event	Date
Industry Call: Industry Testing Checkpoint	Weekly Industry Testing Checkpoint Calls on Tuesdays at 4:15 pm ET	Tuesdays, until further notice
Compliance Go-Live	Compliance Go-Live for Equities Phase 2a Interfirm, Exchange and TRF Compliance Date	October 26, 2020
Compliance Go-Live	Compliance Go-Live for Options Phase 2b Interfirm and Exchange Compliance Date	January 4, 2021

How to Ask a Question during Today's Call

- **For participants using computer audio:**
 - Click the “Raise Hand” button at the bottom of the participants window.
 - A visual prompt will indicate that your line has been unmuted.
- **For participants using phone audio:**
 - Enter *9 on your phone keypad.
 - An audio prompt will indicate that your line has been unmuted.

FINRA CAT Helpdesk

Questions may be directed to the FINRA CAT Helpdesk at 888-696-3348 or help@finracat.com